Report of Exam 2
11/9/2016

1. Summary

	Number of Students
Total	160
Attended	153
Missed	6
Makeup	1

2. Overall distribution

Exam 2

Average = 77.7
Stdev = 13.4

0-50	60	70	80	90	100
4	16	22	39	43	29
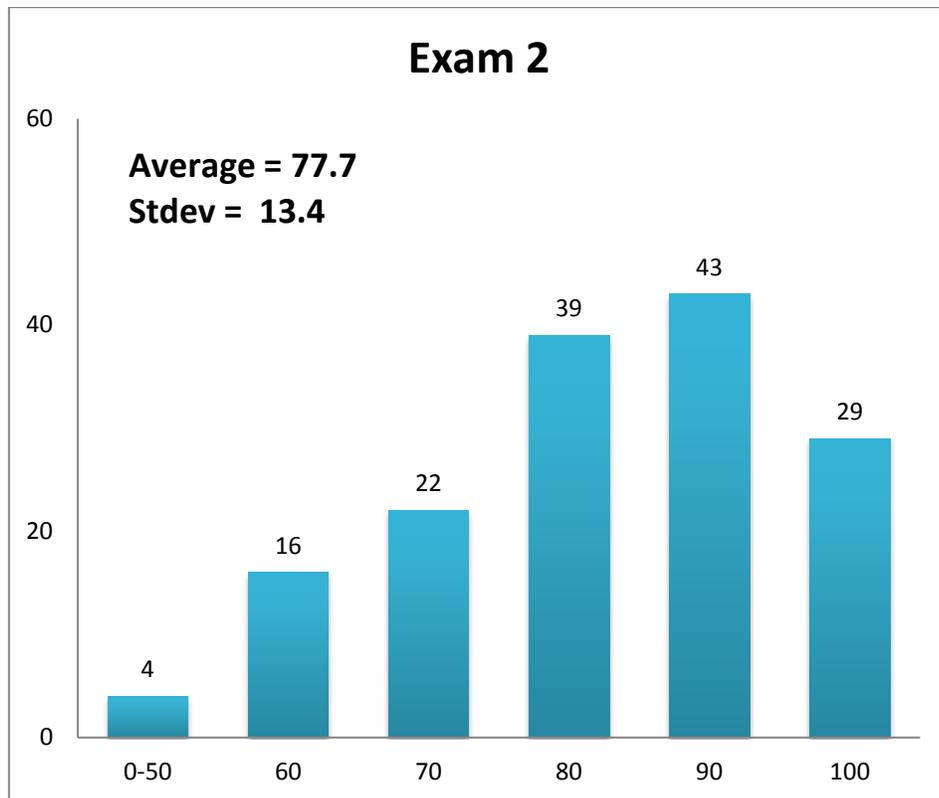
3. Distribution for each problem

Problem 1 - Momentum

Average = 7.6
Stdev = 1.3

Score	0-5	6	7	8	9	10
Count	6	6	39	61	29	12

Problem 2 -Energy

Average = 8.3
Stdev = 2.0

Score	0-5	6	7	8	9	10
Count	14	7	12	23	28	69

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Problem 3 - N-S

Average =7.3
Stdev = 2.3

Score	0-5	6	7	8	9	10
Count	28	4	14	40	46	21

Problem 4 - Dimensional Analy.

Average = 7.8
Stdev = 2.3

Score	0-5	6	7	8	9	10
Count	26	16	5	17	36	53
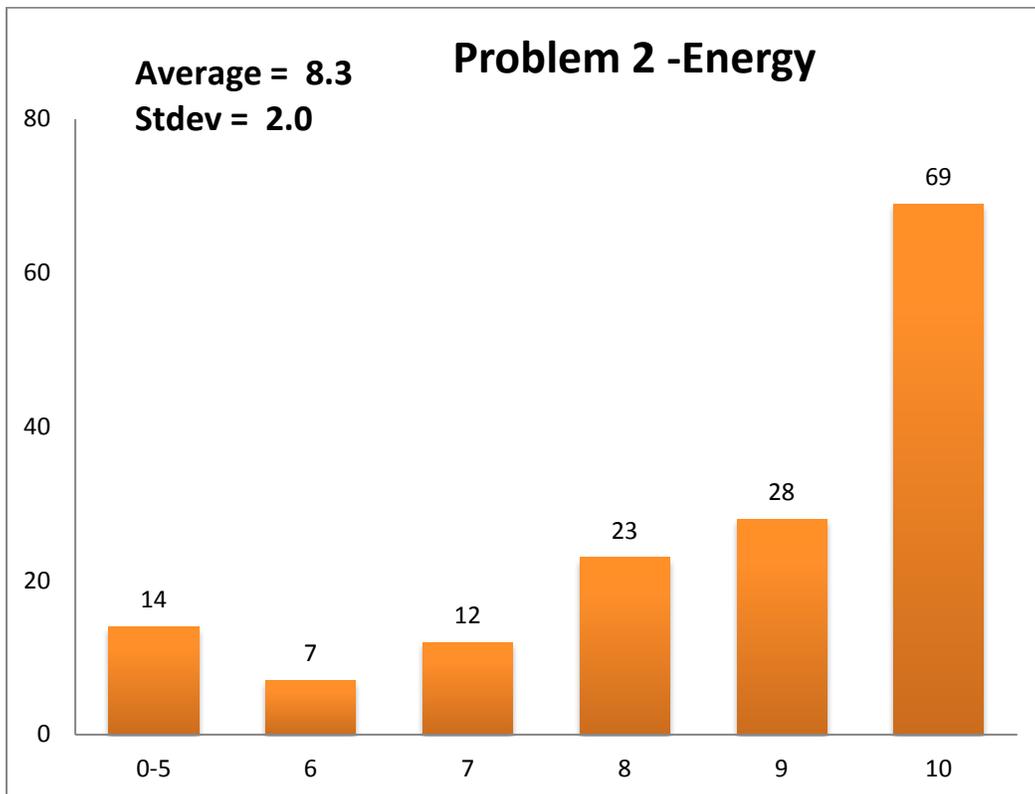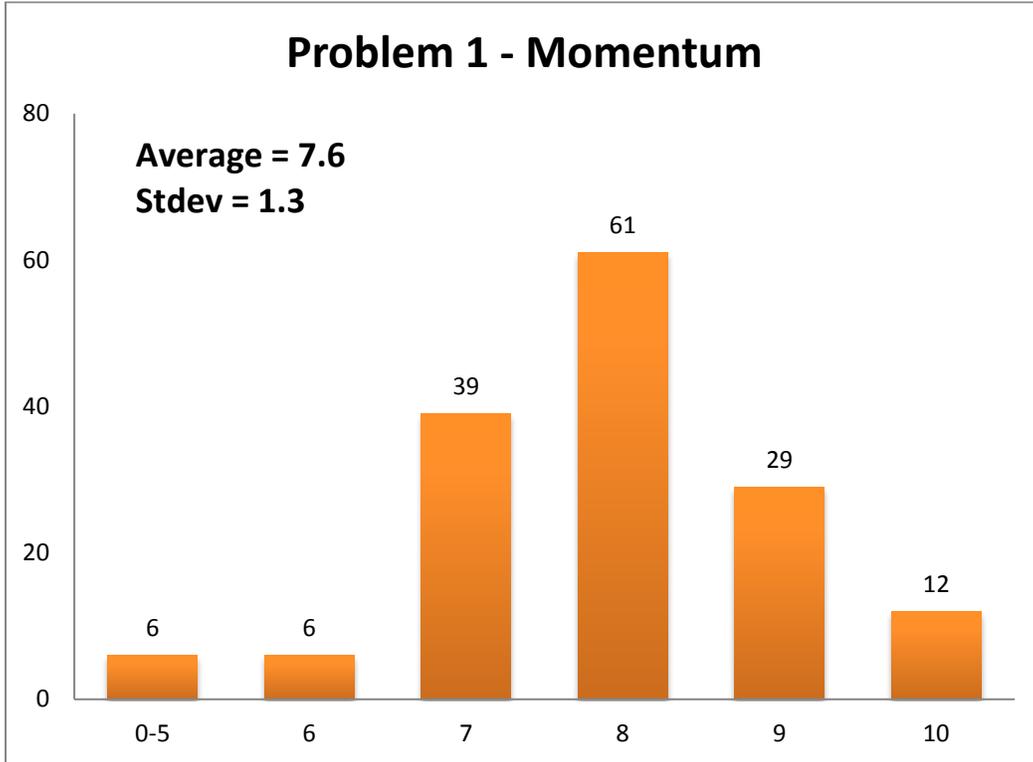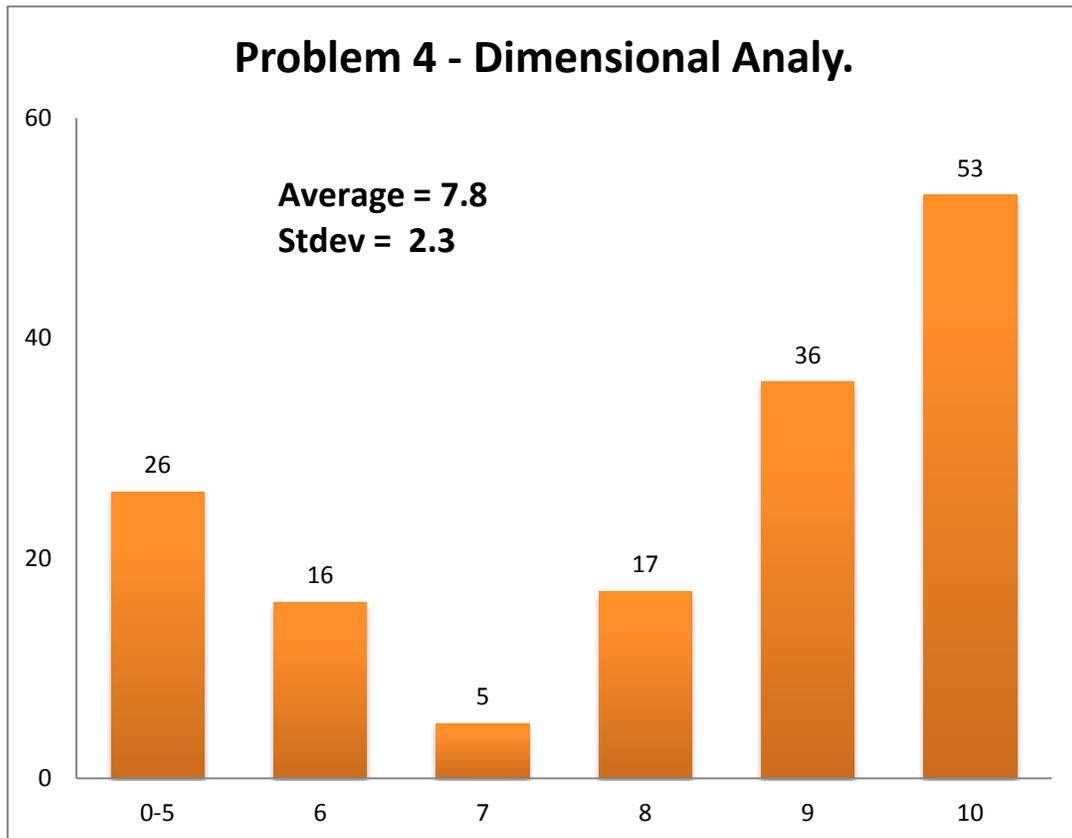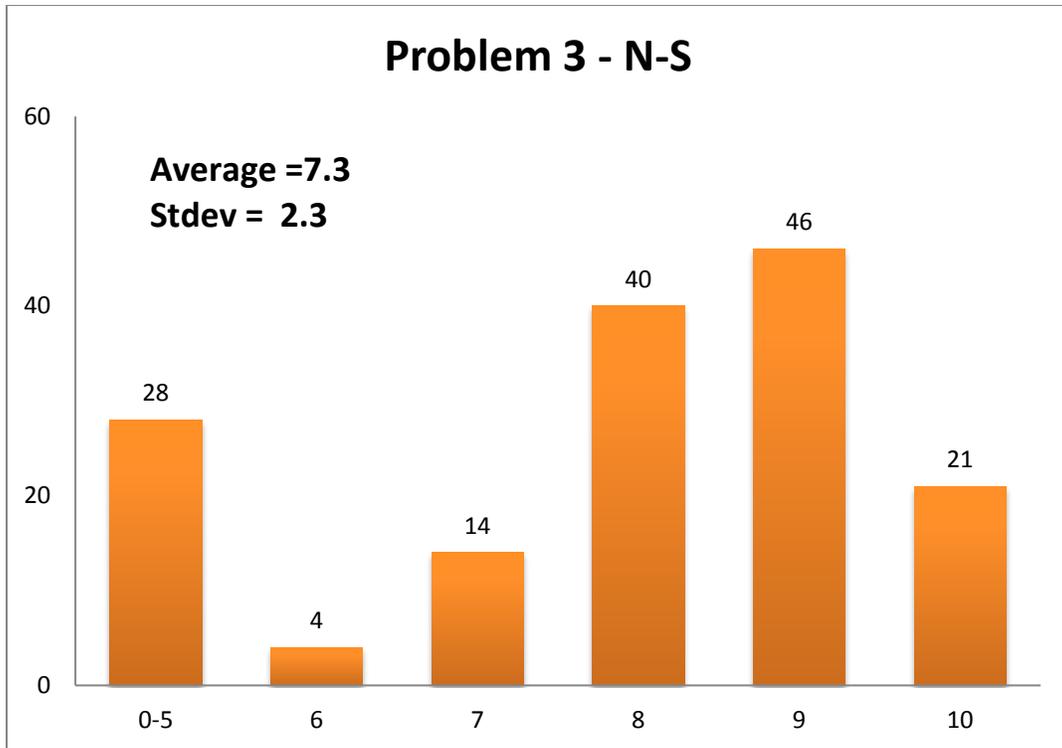
Comparison with previous years   Average =77.7
Stdev = 13.4

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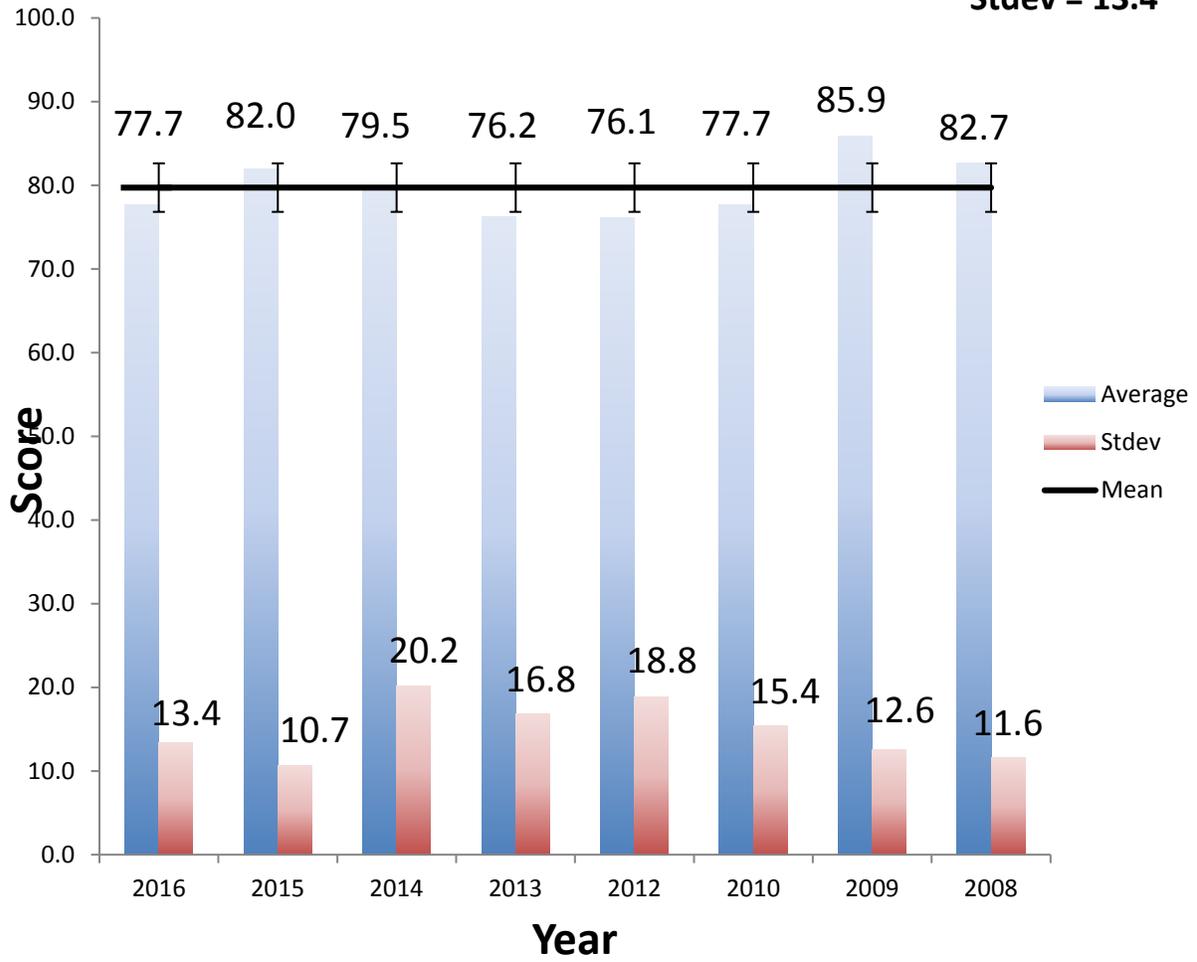
4. Common mistakes

1) Problem 1 (Control Volume Analysis [Momentum])

   - Wrong sign and/or missing sin(30) in the momentum equation
   - Neglecting the weight of the nozzle and fluid

2) Problem 2 (Energy equation)

   - Wrong assumption in applying Bernoulli equation (assumed $V_1=V_2$, $P_2=0$)
   - Not knowing $Q = \frac{m}{\rho t}$

3) Problem 3 (N-S)

   - Wrongly assuming gradient of velocity to be zero on wall
   - Not knowing average velocity can be calculated by $\bar{V} = \frac{Q}{A}$

4) Problem 4 (Dimensional Analysis)

   - Incorrect number of non-dimensional terms
   - Incorrect dimensions for variables
   - Not completing part (b)